

# **Oak Tree, Wells's Manzanita, and Creek Crossing Evaluations**

**Huasna Well Sites and Access Roads  
APN: 085-271-004; Lot 4  
E/2SW/4, SW/4SE/4, Sec. 30, T12N, R33W  
County of San Luis Obispo, CA**

*Prepared by*

**V. L. Holland, Ph.D.**

**Plant and Restoration Ecology  
1697 El Cerrito Ct.  
San Luis Obispo, CA 93401**

*Prepared for*

**Excelaron LLC  
1075 Court St. Suite 207  
San Luis Obispo, CA 93401**

**12 March 2008**

# TABLE OF CONTENTS

SYNOPSIS -----	3
INTRODUCTION AND PURPOSE -----	4
METHODS AND MATERIALS -----	4
RESULTS OF OAK TREE INVENTORY-----	5
RESULTS OF <i>ARCTOSTAPHYLOS WELLSII</i> (WELLS'S MANZANITA) INVENTORY-----	6
RESULTS OF CREEK CROSSING EXAMINATION -----	7
RECOMMENDATIONS-----	8
APPENDIX 1. TOPOGRAPHIC MAPS SHOWING THE LOCATION AND DBH OF OAK TREES WITHIN THE PROJECT SURVEY AREA. -----	11

## **SYNOPSIS**

This report is an addendum to a report I submitted to Excelaron LLC in May 2007 entitled *Botanical Report of Huasna Well Sites and Access Roads, APN: 085-271-004; Lot 4E/2SW/4, SW/4SE/4, Sec. 30, T12N, R33W, County of San Luis Obispo, CA.*

For this addendum, we conducted a quantitative study consisting of counting, mapping, and measuring the oaks and Wells's manzanitas that could be potentially affected by the project. I also examined the three "blue line" creek crossings again for the presence of wetland vegetation.

The results of this study show that a total of 263 oak trees with trunk diameters of 5 inches or more were found within the potential project limits: 238 coast live oaks, 20 valley oaks, and 5 blue oaks.

No oak trees over 5 inches in trunk diameter (DBH) will be removed as a result of the project. However, 135 of the 263 oaks trees will need to be pruned to some extent. The required pruning appears to be relatively minor and should not result in significant impacts to the oaks.

There are 13 Wells's manzanitas on the upper well pad that will be removed as a result of the project. In addition, there are three manzanitas along the road to the upper well site. It is not clear whether these three shrubs will be affected by the project at this time. Wells's manzanitas varied in height from about 3 to 10 feet; however, the majority of the shrubs were 4 to 6 feet tall.

Two of the creek crossings (#1 and #2) traverse very small drainages that have no wetland vegetation within 10 feet of the road sides. Creek crossing #3 traverses a well developed, seasonal creek channel that consists of a barren, sandy channel with no surface water for much of the year. There is a bridge over the creek that will be used when there is rapid water flow. The vegetation along the banks of all three creek crossings is comprised of grassland typical of the grasslands adjacent to the creeks. No wetland vegetation was found during our surveys.

I recommend a biologist be present during the oak tree trimming to make sure no significant impacts occur. If impacts do occur, a mitigation plan should be prepared to address them.

A restoration plan for the removed Wells's manzanitas should be prepared by a qualified restoration botanist. Excelaron has asked me to prepare the plan and implement it after the project has been completed.

## **INTRODUCTION AND PURPOSE**

This report is an addendum to a report I submitted to Excelaron LLC in May 2007 entitled *Botanical Report of Huasna Well Sites and Access Roads*, APN: 085-271-004; Lot 4E/2SW/4, SW/4SE/4, Sec. 30, T12N, R33W, County of San Luis Obispo, CA. In the May 2007 report, the details about the area, the project, the vegetation and flora, and the location of well sites, shipping area, and access roads were discussed in detail. I also discussed the results of our examination of the vegetation and flora within a minimum of 10 feet (mostly 30 feet) of the access roads and shipping site and within 100 feet of the well sites. I described the oak woodland, and other vegetation types, present in these areas but did not map or measure the trunk sizes of the oaks.

Also, in the May 2007 report, I discussed the presence of a rare plant, *Arctostaphylos wellsii* (Wells's manzanita), which we found within the proposed or potential disturbance areas on the upper well site and along the road to the well site. However, we did not count, map, or measure the manzanitas during that study.

The purpose of this addendum is present and discuss the results of our February 29, 2008 quantitative study of the oaks and Wells's manzanitas found within the proposed or potential disturbance areas. This quantitative study consisted of counting, mapping, and measuring all oaks and manzanitas that could be potentially affected by the project. In addition, I examined the three "blue line" creek crossings again for the presence of wetland vegetation.

## **METHODS AND MATERIALS**

An inventory of all oak trees and Wells's manzanitas potentially affected by the proposed oil field project was carried out on February 29, 2008 by Dr. V.L. Holland (Plant Ecologist) and Erin Newman, Project Manager, Excelaron LLC. We walked the entire length of the access road mapping and measuring the DBH (trunk diameter at breast height) of all oak trees within 10 feet of the road side. At the shipping area, we mapped all oak trees on site and within 30 feet of the site's boundaries. For the two well sites, we included all oak trees found within 30 feet of the well heads. There were a few small oak trees in the area, but only trees that were 5 inches or more in DBH are included in our inventory (as required by the County of San Luis Obispo).

For each oak, we determined whether the tree needed to be removed completely (none did) or just pruned to provide clearance along the access road. Pruning requirements by Cal Fire include all tree limbs up to 6 feet above the road and all overhanging branches up to 13 feet 6 inches. We also included the oak trees within our inventory sites that will not be pruned or directly affected by the project.

One rare plant was found within the surveyed areas, *Arctostaphylos wellsii* (Wells's manzanita). This evergreen shrub is present within the proposed or potential disturbance areas on the upper well site and along the road to the well site and was reported in my May 2007 report *Botanical Report of Huasna Well Sites and Access Roads*, APN: 085-271-004; Lot 4E/2SW/4, SW/4SE/4, Sec. 30, T12N, R33W, County of San Luis Obispo, CA. Our quantitative study of Wells's manzanita included counting, mapping, and measuring the height of all found within our survey area.

As mentioned above, the access road has three creek crossings shown on maps as blue line creeks. I examined the creek crossings to determine if the road would impact any existing wetland vegetation. My vegetation survey included 10 feet upstream and downstream from the road sides.

### **RESULTS OF OAK TREE INVENTORY**

The results show that a total of 263 oak trees with trunk diameters of 5 inches or more occur within 10 feet of the access road and shipping site and within 30 feet of the well heads. Most of the trees, especially those at the higher elevations and around the well heads, are *Quercus agrifolia* (coast live oak); however, a few *Quercus lobata* (valley oak) and *Quercus douglasii* (blue oak) also occur along the lower portions of the access road and around the shipping area. In total, we found 238 coast live oaks, 20 valley oaks, and 5 blue oaks (Table 1). The location and DBH of all oak trees found in these areas are shown in Appendix 1: Topographic Map Sheet 1 of 4 (access road), Sheet 2 of 4 (proposed shipping site), Sheet 3 of 4 (existing lower well site), and Sheet 4 of 4 (existing upper well site). The maps show the DBH of every tree and indicate whether it will need to be pruned or not.

No oak trees over 5 inches in trunk diameter (DBH) will be removed as a result of the project. However, 135 of the 263 oaks trees will need to be pruned to some extent. For the most part, the required pruning will be relatively minor and should not significantly impact the oaks. However, I do recommend that a biologist be on site during the pruning to make sure none of the oaks is significantly affected.

Table 1 on the next page shows the results of the oak inventory for the two well heads, the shipping site, and the access roads.

**Table 1. Number of oak trees along the access road and on the shipping and well head sites. Numbers of trees that will be pruned, removed, or unaffected by the proposed project are also listed.**

	Total Oaks on Site	Oaks to be Pruned	Oaks to be Removed	Oaks not Affected
LaVoie-Hadley Well Pad (lower well site)	5	5	*0	0
Sherer-Dickes Well Pad (upper well site)	10	4	0	6
Shipping Site	7	2	0	5
Access Roads	267	124	0	143
<b>TOTAL</b>	<b>289</b>	<b>135</b>	<b>0</b>	<b>154</b>

\* Two coast live oaks less than 5 inches in DBH will be removed from this pad

### **RESULTS OF *Arctostaphylos wellsii* (Wells's manzanita) INVENTORY**

***Arctostaphylos wellsii* (Wells's manzanita)** is currently found from the San Luis Range (upper Coon Creek) to upper Arroyo Grande and Nipomo. It is most abundant on sandstone hills between San Luis Valley and the ocean. Although Wells's manzanita has a geographically restricted range, it sometimes forms well-developed stands of chaparral. Wells's manzanita is threatened by development over much of its range, and some stands have been extirpated in recent years.

It should be noted that this species may be combined with *Arctostaphylos pilosula* (Santa Margarita manzanita) when taxonomic studies of these two species are complete. Both species currently have the same rarity status; so there should be not changes in the recommendations presented in this report. Wells's manzanita and Santa Margarita manzanita are on CNPS List 1B but are not currently listed by either the State or Federal Governments as threatened or endangered.

Results of our inventory show that there are 13 Wells's manzanitas on the upper well pad that will be removed as a result of the project. In addition, there are three manzanitas along the road to the upper well site. It is not clear whether these three shrubs will be affected by the project at this time. Wells's manzanitas varied in height from about 3 to 10 feet; however, the majority of the shrubs were 4 to 6 feet tall (Photo 1). The location and height of the Wells's manzanitas are shown in Appendix 1: Topographic Map Sheet 4 of 4, existing upper well site.



Photo 1. Upper well site showing the well developed Wells's manzanitas on the pad that will be removed as a result of the proposed project. Photo taken in May 2007.

### **RESULTS OF CREEK CROSSING EXAMINATION**

Two of the creek crossings (#1 and #2 on Figure 1 and shown in Photos 2 and 3) traverse very small drainages that had little water flow on February 29, 2008, which was shortly after a fairly heavy winter rain event. These creeks are small seasonal drainages that are vegetated by the typical grasses and forbs of the surrounding oak woodland understory. Where the creeks traverse the access road, the water mostly flows in small channels over the road and then into the undisturbed channel downstream. No wetland vegetation was found along these creeks within 10 feet of the road sides.

Creek crossing #3 traverses a well developed, seasonal creek channel that consists of a barren, sandy-rocky channel with no surface water for much of the year (Figure 2; Photo 4). However, the creek does have significant water flow during some of the heavy winter rains. During these periods, the bridge will be used to traverse the creek. The rapidly flowing water scours the channel removing any invasive plants that may have become established during the dry season. As a result, no vegetation was found in the creek channel during our survey except for a few small herbs that are part of the waif flora that became established when the channel was dry. The vegetation along the banks of the creek is grassland typical of the grasslands adjacent to the creek. No wetland vegetation was found during our surveys.

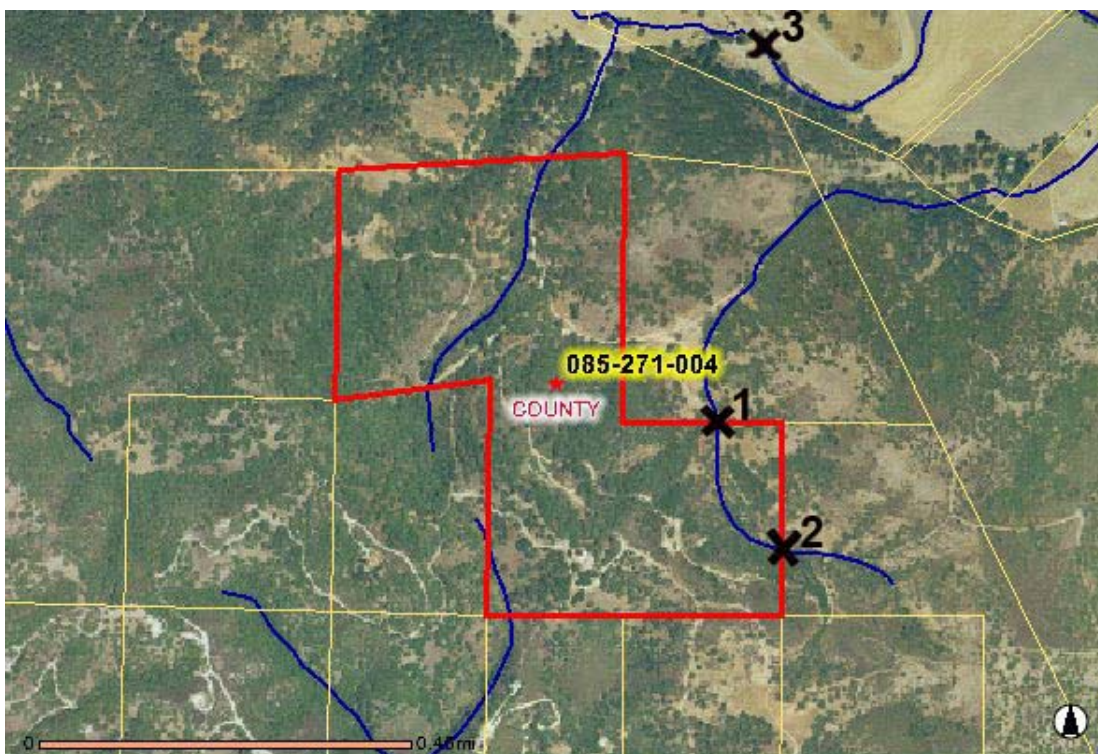


Figure 1. Aerial photo of project site showing the blue line creeks and the location of the creek crossings (marked with an X and numbered).

### **RECOMMENDATIONS**

A botanist or arborist should be present during the oak tree trimming to make sure no significant impacts occur. If impacts do occur, a mitigation plan should be prepared to address them.

A restoration and mitigation plan for the removal of Wells's manzanitas should be prepared by a qualified restoration botanist. Excelaron has asked me to prepare the plan for San Luis Obispo County approval and to start implementing the plan prior to clearing the upper well site pad. If this is acceptable to the County, I will proceed with preparation of the restoration plan.





Photo 2. Photo showing creek crossing #1 on February 29, 2008 shortly after the early winter rains. The vegetation along the creek is grassland that forms the oak woodland understory in this area. No wetland indicator species were found.



Photo 3. Photo showing creek crossing #2 on February 29, 2008 shortly after the early winter rains. The vegetation along the creek is grassland that forms the oak woodland understory in this area. No wetland indicator species were found.



Photo 4. Photo of creek crossing #3 showing its bridge and the creek channel on February 29, 2008 shortly after the early winter rains. The creek channel has been scoured by the rapid water flow and is almost devoid of vegetation. The adjacent grassland vegetation extends along the creek bank in this area. No wetland indicator species were found.

## **APPENDIX 1. TOPOGRAPHIC MAPS SHOWING THE LOCATION AND DBH OF OAK TREES WITHIN THE PROJECT SURVEY AREA.**

Each tree is also labeled as to whether it will need to be pruned or not.

***Topographic Map Sheet 1 of 4 (access road),***

***Topographic Map Sheet 2 of 4 (proposed shipping site),***

***Topographic Map Sheet 3 of 4 (existing lower well site)***

***Topographic Map Sheet 4 of 4 (existing upper well site)***

This map shows the location and size of oaks and Wells's manzanitas on the site.